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United States Patent [19]

Moser et al.

[11] **Patent Number:** 5,237,488[45] **Date of Patent:** Aug. 17, 1993**[54] PORTABLE COMPUTER WITH DISPLAY UNIT CONNECTED TO SYSTEM UNIT THROUGH CONDUCTING HINGE****[75] Inventors:** Gregory T. Moser, Easton, Pa.; Jane M. Shewchuck, Dearborn, Mich.**[73] Assignees:** Virginia Polytechnic Institute & State University; Virginia Tech Intellectual Properties, Inc., both of Blacksburg, Va.**[21] Appl. No.:** 881,431**[22] Filed:** May 11, 1992**[51] Int. Cl.:** H05K 1/16; H01R 39/12; E05D 11/00; G06F 7/16**[52] U.S. Cl.:** 361/729; 361/681; 439/31; 16/223; 16/386**[58] Field of Search:** 439/13, 23, 24, 31; 16/223, 386; 364/708; 361/380, 390, 392, 393, 395, 394, 399**[56] References Cited****U.S. PATENT DOCUMENTS**

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Primary Examiner—Leo P. Picard*Assistant Examiner*—Michael W. Phillips*Attorney, Agent, or Firm*—Whitham & Marhoefer**[57] ABSTRACT**

An electrically conductive hinge provides for the transmission of electrical power and signals between a pivotally connected display unit and system unit of a portable computer and eliminates cable connections between the display unit and the system unit. Either the system unit, the display unit, or both units have a set of wipers which contact the conductive lines in the electrical track. The conductive lines are long enough to allow the display unit to be pivoted to and from its open and shut positions while the wipers remain in contact therewith. In one arrangement, the electrical track is manufactured on the hinge pin. In another arrangement, the electrical track is manufactured on a disk positioned at or near one end of the hinge pin.

2 Claims, 3 Drawing Sheets